



Early Journal Content on JSTOR, Free to Anyone in the World

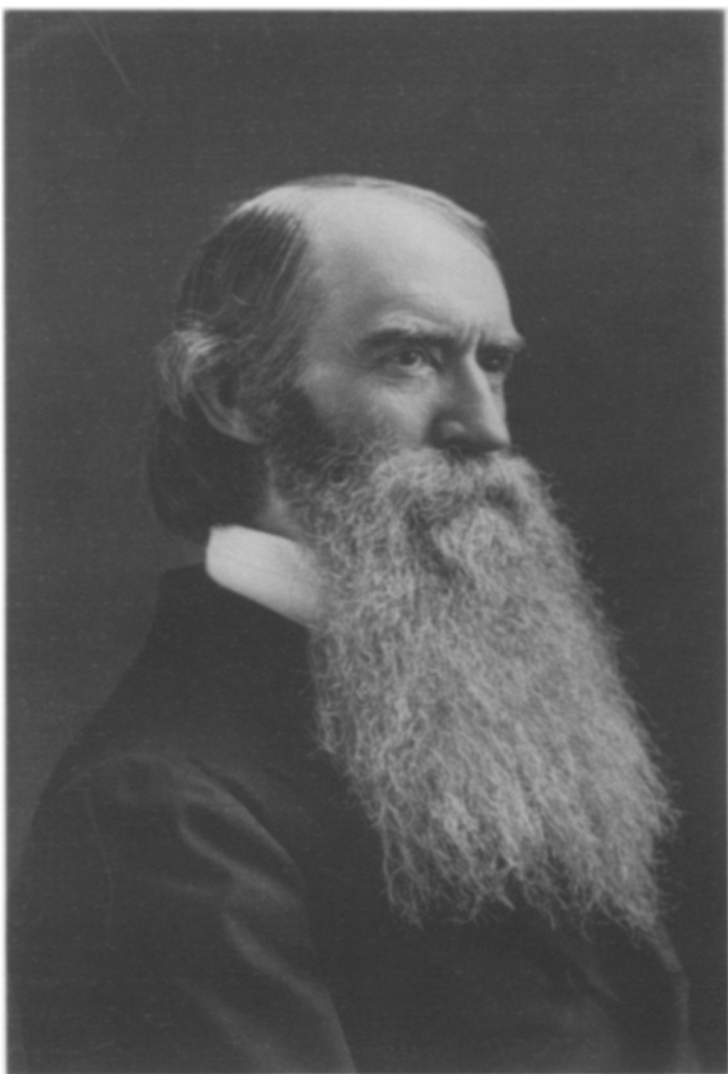
This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

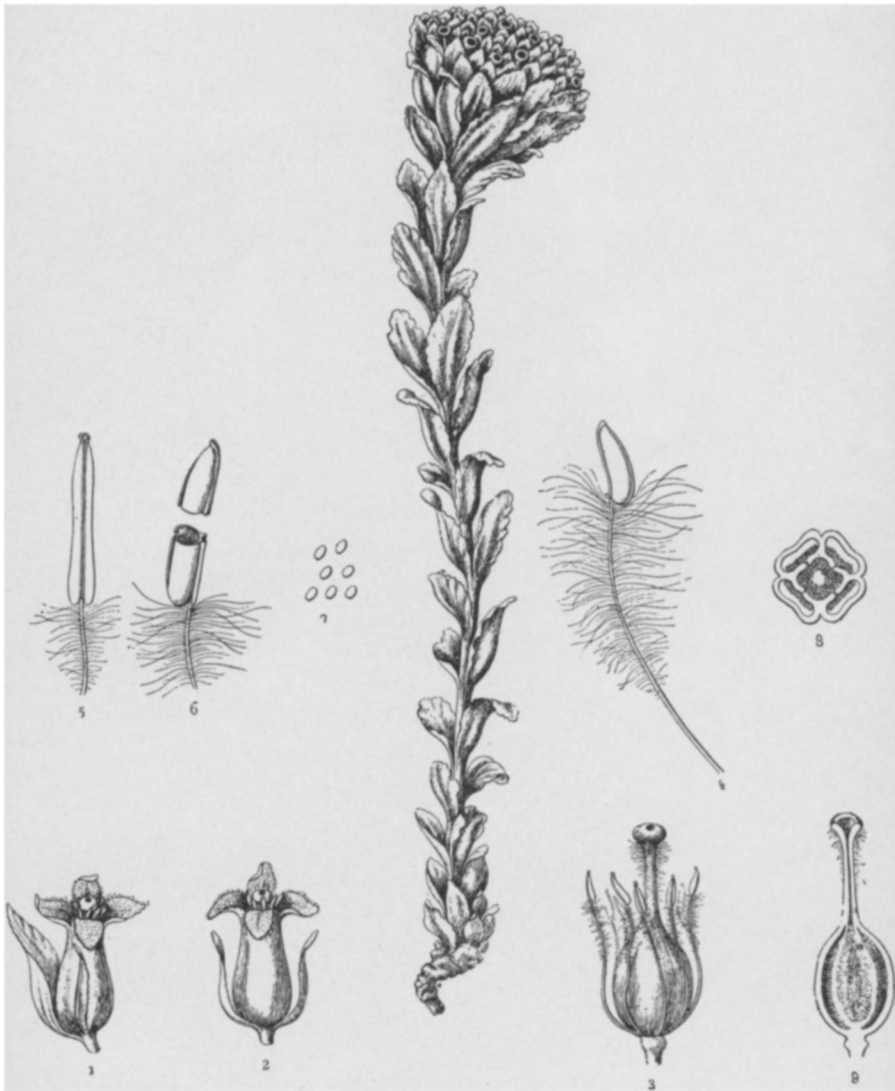
We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.



A. Newberry



HEMITONES CONGESTA, A. GRAY.

NEWBERRYA CONGESTA, TORR.

BULLETIN
OF THE
TORREY BOTANICAL CLUB.

Vol. XX.

Lancaster, Pa., March 15, 1893.

No. 3.

John Strong Newberry.

BY N. L. BRITTON.

(WITH PORTRAIT AND PLATE CXLII.)

Professor John Strong Newberry, president of this club for ten years, and one of the most eminent scientific men of our time, died at his residence in New Haven, Conn., during the night of December 7, 1892. He was stricken with paralysis on the 3d of December, 1890, and while he recovered from the attack so as to be able to return to his studies for a short time during 1891, his recuperation was at no time sufficient to allow him to exert himself for more than a few hours at a time. Only those who were closely associated with him can realize what a profound loss it was to the Club and to American science generally when he was taken ill, and his death leaves a void which we are sure can never be filled.

Professor Newberry was born at Windsor, Conn., on December 22, 1822. He was thus within about two weeks of being seventy years of age. His family moved to Ohio during his boyhood, and his father became interested in coal-mining, then a new industry in that part of the country. Dr. Newberry's first tendency towards Natural Science was brought about by his observation of the fossil plants of the roofing-shales of these coal mines. He made a large collection of these, and they formed the nucleus of the grand museum of Geology and Palæontology which he built up in later years for the School of Mines of Columbia College. Some of these specimens are still there preserved. He also was early

interested in mollusca and collected the land and fresh water shells industriously. I have been repeatedly surprised at his familiarity with shells, but it is true that there was scarcely any group of natural objects with which he was not conversant. He was, indeed, one of the "all-round" men of science, which the modern necessity for specialization has now made almost an impossibility.

His academic education was obtained at the Western Reserve College, from which he was graduated in 1846. He then undertook the study of medicine at the Cleveland Medical College, and received the degree of M. D. from that institution in 1848. The next two years of his life were spent in study abroad, especially in Paris, and in 1851 he returned to Cleveland and took up the practice of medicine, which he continued for about four years. During this period he was continually increasing his knowledge of geology, zoölogy and botany, and his fondness for these sciences was so great that when, in 1855, the opportunity was afforded him of joining one of the government expeditions then engaged in trans-continental surveys for the determination of the most available route for a Pacific Railroad, he gladly accepted the position of geologist and botanist to Lieut. Williamson's expedition to the Columbia River. The party sailed from New York on May 5, 1855, arrived at San Francisco May 30, and on July 9 were camped at Benicia ready to begin active operations, which commenced the following day. The route lay through Suisun, Marysville, up the valley of the Sacramento River to Fort Reading, thence to the Lower Klamath Lake on the northern boundary of California, the Upper Klamath Lake in Southern Oregon, through the Cascade Mountains during September, reaching the Columbia River, opposite the place where the city of Portland now stands, on October 9. Repeated trips of a few days each off the line of the main route were made, and large collections illustrating the natural history of the region were collected, accounts of all of which were published by Dr. Newberry in Lieut. Williamson's Report (Vol. vi. Rep. Expl. and Surv. from Miss. River to Pac. Ocean, 1857), the preparation of these accounts occupying his time for more than a year, during which he was located at Washington. Many of the plants collected came into the possession of Dr. Torrey, and are in the Columbia College Herbarium. Dr. Newberry's chapter

on the forest trees of Northern California and Oregon has become a classic in the literature of North American forestry.

Shortly after the completion of his work on this expedition he was attached to the party of Lieut. Jos. C. Ives which explored the Colorado River in 1857-1858, as physician and naturalist. The party assembled in San Francisco in the month of October, 1857, and sailed from that port November 1st, on a schooner for the mouth of the Colorado River. They passed Cape St. Lucas the seventh day out, but the progress of the vessel up the Gulf of California was so retarded by head winds that the point of destination was not reached until November 28. The vessel was unloaded during the next five days, and a start made up the river in a small steamboat which had been brought along. Fort Yuma, at the mouth of the Gila River, was reached on January 5, 1858, Bill William's Fork on February 1, the "Needles" near the mouth of the Mohave Cañon on February 7, that of the Black Cañon on March 8, and the Big Cañon early in April. They then left the river, ascended the Colorado Plateau and proceeded eastward past the San Francisco Mountains, reaching Fort Defiance on May 22, thence to Santa Fé and Fort Leavenworth, and then to the Atlantic Coast.

Dr. Newberry accumulated extensive collections on this expedition. He wrote the Geological Report. The plants were worked up by Drs. Gray, Torrey and Engelmann, and the Zoölogical Report was elaborated by Professor Baird.

In 1857 he was appointed Professor of Chemistry in the Columbian University, Washington, D. C., a position which he held, however, for a short time only.

In 1859 he was attached to the party of Capt. J. N. Macomb which traversed the region from Santa Fé to the junction of the Grand and Green Rivers of the Colorado of the West. The expedition set out from Santa Fé about the middle of July, and proceeded northwestwardly up the Rio Chama and across the divide to the headwaters of the San Juan River into southwestern Colorado and Utah, and back by another route to Santa Fé in the autumn. Dr. Newberry wrote the geological part of the report, which was, however, not published until 1876. It includes descriptions and figures of a large number of Triassic plants.

He became a member of the United States Sanitary Commission in June, 1861, and in September resigned from the army and accepted the Secretaryship of the Western Division of the Commission, with headquarters at Louisville, Ky. He held this very responsible position for five years, and during that time accomplished little work in Natural Science, beyond increasing his geological collections, which had now become very extensive.

On the establishment of the Chair of Geology and Palæontology, in the newly-founded School of Mines of Columbia College, in 1866, Dr. Newberry was elected Professor, a post which he held until his death. His private collection was purchased by the College, and liberal appropriations made for increasing it. These, together with the materials which he was continually collecting himself or receiving as donations or exchanges from other naturalists, have made the Geological Museum of Columbia second in importance to no other college museum in America. His long-continued, diligent and successful researches into fossil plants and fishes make this Museum especially strong in these two groups, it containing a very large number of type specimens, many of which are unique. It is gratifying that these lines of investigation are to be followed up at Columbia by two of his students.

The Geological Professorship in the School of Mines necessitated the giving of especial prominence to instruction in Economic Geology, and the strengthening of the collections along that line. Much of Dr. Newberry's time was consequently occupied in this work, and his opinion on ore deposits, quarries and useful minerals generally, was highly prized. Calls to examine mining properties were far more numerous than he could answer, but during every vacation he traveled in one direction or another, so that every mining or quarrying district in North America became known to him. His beloved museum profited constantly during these years, both on the economic and the purely scientific side. He never regarded the economic interests as the primary object of his work, however, and a new genus of fossil plants or fishes was of far more interest to him than a new mine.

In 1869 Dr. Newberry accepted the Directorship of the Geological Survey of Ohio, and enthusiastically devoting all his lei-

sure time to the work, aided by a corps of competent assistants, brought together an enormous amount of information concerning the geology, palæontology, botany and zoölogy of the State which has been published in a series of thick octavo volumes. He also did considerable palæontological work for the Geological Survey of Illinois.

He was one of the judges of Building and Ornamental Stones at the Centennial Exhibition at Philadelphia, in 1876, and wrote the report thereon (Group I. pp. 107-171).

In 1884 he was appointed one of the palæontologists of the United States Geological Survey with especial reference to his favorite studies on fossil fishes and fossil plants. Two quarto fully illustrated monographs on fossil fishes, published in 1888 and 1889, and two yet unpublished monographs on fossil plants, resulted from this appointment.

In 1867 Dr. Newberry received the degree of LL. D. from his Alma Mater. He was an original member of the National Academy of Sciences; an original member of the American Association for the Advancement of Science, and its President in 1867-68; President of the New York Academy of Sciences from 1868 to 1892; President of the Torrey Botanical Club, 1880 to 1890; and a foreign member of the Geological Society of London, from which he received the Murchison Gold Medal for distinguished services to geological science, in 1888.

Dr. Newberry married Miss Sarah B. Gaylord in Cleveland, Ohio, in 1848, who, with six of their seven children, five sons and one daughter, survive him. His eldest son died some years ago.

In Botany the name of Newberry is commemorated in the genus *Newberrya*, Torr. Ann. Lyc. N. Y. viii. 55 (1864), of the Monotropeæ, which must, however, give way to the previously published *Hemitones*, A. Gray, Bot. Williamson's Exp. 80, Pl. XII. (1857). I have had the plate of this plant *Hemitones congesta*, A. Gray, *Newberrya congesta*, Torr., reproduced from the original, slightly reduced, and copies of it accompany this notice (Plate CXLII.) *N. spicata*, A. Gray, is another described species. Both are from the Pacific coast.

The following species have been named in his honor:

- Physaria Newberryi*, A. Gray, Rep. Bot. Ives' Exp. 6 (1861).
 = *Coulterina Newberryi*, Kuntze, Rev. Gen. Pl. 931 (1891).
 [Cruciferae; living.]
- Celastrorhynchium Newberryanum* Hollick, Amboy Clays, N. J., 153
 Pl. XLVIII, figs. 1-27 (Ined). [Celastrineae; Cretaceous.]
- Astragalus Newberryi*, A. Gray, Proc. Amer. Acad. xii. 55 (1876).
 [Leguminosae; living.]
- Potentilla Newberryi*, A. Gray, Proc. Amer. Acad. vi. 532 (1865)
Ivesia gracilis, T. & G.; Newb. in Bot. Williamson's Exp. 72,
 Pl. XI. (1857). [Rosaceae; living.]
- Peucedanum Newberryi*, S. Wats. Amer. Nat. vii. 301 (1873) =
Ferula Newberryi, S. Wats. Proc. Amer. Acad. xi. 145 (1876) =
Coloptera Newberryi, Coult. & Rose, Rev. N. A. Umbel. 49.
 [Umbelliferae; living.]
- Viburnum Newberryanum*, Ward, 6th Ann. Rep. Director U. S.
 Geol. Surv. 557 (name only), Pl. LXIV, figs. 10-12; Pl. LXV,
 figs. 1-3 (1885). Also described and figured in Bull. U. S.
 Geol. Surv. No. 37, "Types of the Laramie Flora," 113, 114,
 Pl. LVI, figs. 1-6 (1887). [Caprifoliaceae; Laramie.]
- Leptosyne Newberryi*, A. Gray, Proc. Amer. Acad. vii. 358 (1868).
 = *Leptosyne Douglasii*, D. C. Prodr. v. 531 (1836). [Compositae;
 living.]
- Leucampyx Newberryi*, A. Gray in Porter & Coulter, Fl. Colo. 77
 (1876). [Compositae; living.]
- Gentiana Newberryi*, A. Gray, Proc. Amer. Acad. xi. 84 (1876).
 [Gentianeae; living.]
- Pentstemon Newberryi*, A. Gray, Bot. Williamson's Exp. 82, Pl. XIV.
 (1857) = *P. Menziesii*, var. *Newberryi*, A. Gray, Syn. Fl. N. A.
 ii. Part I. 259 (1878). [Scrophularineae; living.]
- Platanus Newberryana*, Heer, in Capallini and Heer, Phyl. Cret.
 Nebrask. 16, Pl. I, f. 4 (1866). [Platanaceae; Cretaceous.]
- Agave Newberryi*, Engelm. Trans. Acad. Sci. St. Louis, iii. 309
 (1875). [Amaryllideae; living.]
- Cordaites Newberryi* (Daws.), Knowlton, Proc. U. S. National
 Museum, xii. 607 (1890) = *Dadoxylon Newberryi*, Dawson,
 Fos. Pl. Dev. & Sil. Canada, 14, Pl. I, figs. 7-9. [Gymnos-
 permæ; Devonian.]

- Cardiocarpon Newberryi*, Andrews, Geol. Surv. of Ohio, ii. Pt. II, 425, Pl. XLVI, fig. 2 (1875). [Pteridophyta; Carboniferous.]
- Notholaena Newberryi*, D. C. Eaton, Bull. Torr. Bot. Club, iv. 12 (1873). [Filices; living.]
- Goniopteris Newberriana*, White and Fontaine, Rep. PP., Second Geol. Surv. Penna. 84, Pl. XXX, f. 2 (1880). [Filices; Carboniferous.]
- Tæniopteris Newberriana*, White and Fontaine, Rep. PP., Second Geol. Surv. Penna. 91, Pl. XXXIV, figs. 1-8 (1880). [Filices; Carboniferous.]
- Odontopteris Newberryi*, Lesq., Coal Flora of Penna., p. 127. [Filices; Carboniferous.]
- Pseudopecopteris Newberryi*, Lesq., Coal Flora of Penna., 202, Pl. XXXVII, fig. 1. [Filices; Carboniferous.]
- Pecopteris Newberryi*, Lesq., Geol. Surv. of Illinois, ii. 443 (1866) = *Sphenopteris Newberryi*, Lesq., Bobst. Journ. Nat. Hist. vi. 420 (1854) = *Diplothmema Newberryi*, Stur. Abh. K. K. Geol. Reichsanst. vii. 124 (1877). [Filices; Carboniferous.]
- Archæophyton Newberryanum*, Britton, Ann. N. Y. Acad. Sci. iv. 124 Pl. VII. (1888). [Alga; (?) Archæan.]
- Dictyophyton Newberryi*, Hall. Sixteenth Annual Report of the Regents of the University of the State of New York, p. 87, Pl. IV., figs. 1-3, (1863). [Algæ; Silurian.]
- Fragilaria Newberryi*, Ehrenb., Abh. K. K. Akad. Berlin, 1870, p. 56, Pl. III., fig. 12. [Diatomaceæ.]
- Archæophyton Newberrianum*, Britton, Ann. N. Y. Acad. Sci. iv. 124, Pl. VII. (1888). [Alga; (?) Archæan.]

The following list of titles of his botanical writings is abstracted from a complete bibliography, prepared in the main by himself, recently revised by Prof. Jas. F. Kemp and Mr. Arthur Hollick, and published in the School of Mines Quarterly.

This bibliography includes 197 titles.

LIST OF BOTANICAL PUBLICATIONS OF PROFESSOR J. S. NEWBERRY.

"On the Structure and Affinities of Certain Fossil Plants of the Carboniferous Age."—Proc. Amer. Asso. 1853, 157; Annals of Science, i. 268.

"On the Carboniferous Flora of Ohio."—Proc. Amer. Asso. 1853, 163; Annals of Science, i. 280.

"Catalogue of the Fossil Plants of Ohio."—Annals of Science 1853, i. 95–106.

"New Fossil Plants from Ohio."—Annals of Science 1853, 116–128 and 153.

"The Botany of Northern California and Oregon."—United States Pacific Railroad Report, vi. Botanical Report, 1–94, sixteen plates (1857).

"Catalogue of Plants of Ohio."—Ohio Agric. Report and Reprint, pp. 41 (1859).

"Cretaceous and Tertiary Plants."—Hayden's Report on Exploration of Missouri and Yellowstone Rivers, 146 (1859–60).

"The Ancient Vegetation of North America."—Amer. Jour. Sci. xxix. 208 (1860).

"The American Cretaceous Flora."—Amer. Jour. Science, xxx. 273 (1860).

"Description of Fossil Plants Collected by the N. W. Boundary Commission."—Proc. Bost. Nat. Hist. Soc. vii. and Reprint, pp. 19 (1863).

"Report on the Fossil Plants Collected in China by Mr. Raphael Pumpelly."—Smithsonian Contributions, 1868, p. 119, Pl. I.

"Notes on the Later Extinct Floras of North America."—Annals Lyc. Nat. Hist. ix. 1, 1870, Reprint, 8vo. p. 76.

"Notice of Fossil Plants from the Cretaceous Sandstone of Fort Harker, Kansas, and from the Miocene of Bridge Creek, Oregon."—Proc. N. Y. Lyc. Nat. Hist. i. 148 (1870).

"Notice of Angiospermous Leaf-Impression in a Red Sandstone Boulder Found in Excavating the Foundations of a Gas Office in Williamsburg, L. I."—Proc. N. Y. Lyc. Nat. Hist. i. 149–150 (1871).

"Geological Survey of Ohio."—Vol. i. Part II. (1873), Description of Fossil Plants, pp. 355–385, eight plates.

"On the Results of the Removal of Forests."—Proc. N. Y. Lyc. Nat. Hist. Second Series, 31 (1873).

"On the So-called Land Plants of the Lower Silurian of Ohio."—Amer. Jour. Sci. II. viii. 110–160 (1874).

"Devices Employed in Nature for the Distribution of the Seeds of Plants."—Scientific American, May, 1879.

"Geological History of the North American Flora."—Bull. Torr. Bot. Club, vii. 74 (1880).

"On Cell Functions in Organic Structures."—Trans. N. Y. Acad. Sci. i. 42 (1881-2).

"Description of Fossil Plants from Western North America."—Proc. U. S. Nat. Museum, 1882, 502.

"Botany and Geology of the Country Bordering the Rio Grande."—Trans. N. Y. Acad. Sci. vii. 90 (1883).

"Notes on Fossil Plants from Northern China."—Amer. Jour. Sci. xxvi. 123 (1883).

"Notes on the Geology and Botany of the Country Bordering the Northern Pacific Railroad."—Annals N. Y. Acad. Sci. iii. (1884).

"Description of *Spiraxis*, a Peculiar Screw-like Fossil from the Chemung Rocks."—Annals N. Y. Acad. Sci. iii. (June, 1885).

"Saporta's Problematical Organisms of the Ancient Seas."—Review. Science (June 19, 1885).

"*Pinus monophylla*, Torrey and Fremont, a Variety of *P. edulis*."—Bull. Torr. Bot. Club, xii. 50 (1885).

"Flora of the Amboy Clays."—Bull. Torr. Bot. Club, xiii. 33 (1886).

"A New Species of *Bauhinia* from the Amboy Clays."—Bull. Torr. Bot. Club, xiii. 77, pl. 1 (1886).

"The Cretaceous Flora of North America."—Trans. N. Y. Acad. Sci. v. (February, 1886).

"*Pinus monophylla*, a Variety of *P. edulis*."—Second paper, Bull. Torr. Bot. Club, xiii. (October, 1886).

"The Ancestors of the Tulip Tree."—Bull. Torr. Bot. Club, xiv. (January, 1887).

"Food and Fibre Plants of the North American Indians."—Pop. Sci. Monthly, xxxii. 31 (1887).

"Fauna and Flora of the Trias of New Jersey and the Connecticut Valley."—Trans. N. Y. Acad. Sci. vi. 124 (1887).

"Fossil Fishes and Fossil Plants of the Triassic Rocks of New Jersey and the Connecticut Valley."—Monograph xiv. U. S. Geol. Surv. (1888).

"Triassic Plants from Honduras."—Trans. N. Y. Acad. Sci. vii. 113 (1888).

"Rhætic Plants from Honduras."—*Amer. Jour. Sci.* xxxvi. 342 (1888).

"The Laramie Group. Its Geological Relations, its Economic Importance and its Fauna and Flora."—*Trans. N. Y. Acad. Sci.* ix. 6 (1889).

"The Flora of the Great Falls Coal Field, Montana."—*Amer. Jour. Sci.* (III.) xli. 191–201, Pl. XIV. (1891).

The portrait accompanying this notice is reproduced from a photograph taken about 1886 and first published in Prof. H. F. Fairchild's "*History of the New York Academy of Sciences.*" It is here used by permission.

Death of Isaac C. Martindale.

The readers of the BULLETIN will receive with deep sorrow the news of the sudden death of Isaac C. Martindale from apoplexy, at his home, No. 322 Penn street, Camden, N. J.

Mr. Martindale was born in Byberry, Philadelphia county, Pa., July 15, 1842. His parents were members of the Society of Friends, and his early education was acquired chiefly in schools under their control. His father was a descendant of John Martindell, who early settled in Bucks county, Pa. Many of the family have become prominent in the history of that region. His ancestry on both sides had shown literary ability which he inherited, while there was also in him an inherent love for nature. He began the study of natural history while on his father's farm, and in spite of lack of books he acquired considerable scientific knowledge in all its departments. He left the farm to become a clerk in a bank at Byberry. In 1875 he was appointed Cashier of the National State Bank of Camden, the duties of which he performed with great fidelity. A few years ago some of his friends established the Camden National Bank, the cashiership of which was confided to him. He had been for the last three years Treasurer of the Academy of Natural Sciences in Philadelphia, a position in which his financial ability made him eminently useful.

The study of botany, in whatever hours he could snatch from his daily duties, was to him a welcome relaxation. He early made himself acquainted with the plants in the vicinity of Byberry. A